

PHOSPHOR CONVERTED LIGHT EMITTING DEVICE

ABSTRACT OF THE DISCLOSURE

A system includes a radiation source capable of emitting first light and a fluorescent material capable of absorbing the first light and emitting second light having a different wavelength than the first light. The fluorescent material is a phosphor having the formula $(\text{Lu}_{1-x-y-a-b}\text{Y}_x\text{Gd}_y)_3(\text{Al}_{1-z}\text{Ga}_z)_5\text{O}_{12}:\text{Ce}_a\text{Pr}_b$ wherein $0 < x < 1$, $0 < y < 1$, $0 < z \leq 0.1$, $0 < a \leq 0.2$ and $0 < b \leq 0.1$. In some embodiments, the $(\text{Lu}_{1-x-y-a-b}\text{Y}_x\text{Gd}_y)_3(\text{Al}_{1-z}\text{Ga}_z)_5\text{O}_{12}:\text{Ce}_a\text{Pr}_b$ is combined with a second fluorescent material capable of emitting third light. The second fluorescent material may be a red-emitting phosphor, such that the combination of first, second, and third light emitted from the system appears white.